

LISTING OF THE CLAIMS

1 Claims 1-21 (Canceled)

1 Claim 22 (Currently Amended): A mat of fibrous media comprising: at least a
2 first layer of selected first varied ~~and intended~~ fiber size distribution therein, ~~said a varied~~
3 fiber size of said first fiber size distribution being readily adjustable increasing during
4 ~~formation~~ through a thickness dimension of said first layer and resulting in a first varying
5 permeability within said thickness dimension of said first layer wherein said first varying
6 permeability increases in said thickness ~~direction~~ dimension through said first layer and
7 having a first varying gradient density within the first layer, wherein said first gradient
8 density increases in a thickness direction through said first layer, and at least a second
9 layer of selected second varied fiber size distribution therein, a second fiber size of said
10 second fiber size distribution increasing being readily adjustable during formation
11 through a thickness dimension of said second layer, said second varied fiber size
12 distribution and a second varying gradient density in said second layer resulting in a
13 second varied permeability wherein said second permeability increases in said thickness
14 ~~direction~~ dimension through said second layer and wherein said permeability of said first
15 layer is less than said permeability of said second layer, each of said first layer and said
16 second layer being formed on first and second drum collectors respectively and
17 adjustable by movement of one of said die or said drum collectors to a selected spacing,
18 said layers being collected from said drum collectors in a direction which is generally
19 perpendicular to a rotational axis of said drum collectors, both said first and second layers
20 being of substantially aligned fibers of first and second selected varied fiber size
21 distributions and varied permeability with each being attenuated as layers from spaced

22 orifice sources directly to separate, spaced collector, one of such sources receiving said
23 layers from the other immediately preceding spaced collector source.

1 Claim 23 (Previously Presented): The mat of fibrous media of Claim 22,
2 wherein said first and second layers are combined in an interspersed manner.

1 Claim 24 (Previously Presented): The mat of fibrous media of Claim 22,
2 wherein said first and second layers are combined in a successive manner.

1 Claim 25 (Previously Presented): The mat of fibrous media of Claim 22,
2 wherein at least one portion of said layers is a product of turbulently entangled fibers
3 with varied fiber size distribution.

1 Claim 26 (Previously Presented): The mat of fibrous media of Claim 22,
2 wherein said fibers of said first layers are of melt blown composition and said fibers of
3 said second layered portion are of melt blown composition.

1 Claim 27 (Previously Presented): The mat of fibrous media of Claim 22, wherein
2 said fibers of said first layer are of a varied size distribution in the approximate range of
3 zero point one (0.1) to twenty seven (27) micrometers and said second layer are of a
4 varied fiber size distribution in the approximate range of one (1) to fifty (50)
5 micrometers.

1 Claim 28 (Previously Presented): The mat of fibrous media of Claim 23, wherein
2 said fibers of said first layer have a varied permeability range varying within the
3 approximate range of five (5) to two thousand (2000) cubic feet per minute per square
4 foot (cfm/ft²) permeability and said fibers of said second layers have a varied
5 permeability range varying within the approximate range of thirty (30) to four thousand
6 (4000) cubic feet per minute per square foot (cfm/ft²) permeability.

1 Claim 29 (Currently Amended): A mat of fibrous filter media comprising: at least
2 a first layer of synthetic melt blown composition with approximate first varied and
3 ~~intended~~ selected fiber size distributions, a first fiber size of said first fiber size
4 distribution increasing through a thickness dimension of said first layer, said first layer
5 further comprising a varying gradient density increasing in said thickness dimension and
6 varying permeability, said fiber size distribution of said first layered mat portion varying
7 within the approximate range of zero point one (0.1) to twenty seven (27) micrometers
8 and an increasing permeability within said first layer varying within the approximate
9 range of five (5) to two thousand (2000) cubic feet per minute (cfm/ft²) and, a second
10 successive layer of synthetic melt blown composition with a second varied fiber size
11 distributions within said second layer, said second varied fiber size distribution having
12 fiber size which increases in said thickness dimension, said second layer ~~and~~ further
13 comprising varying gradient density and permeability with said second layer, said varied
14 fiber size distribution and gradient density increasing in said thickness dimension of said
15 second layer, said fiber size distributions varying within the approximate range of one (1)
16 to fifty (50) micrometers and increasing permeability within the approximate range of
17 thirty (30) to four thousand (4000) cubic feet per minute per square foot (cfm/ft²),
18 wherein said increasing permeability of said first layer is less than said increasing
19 permeability of said second layer and each layer having been attenuated as layers from
20 selectively spaced melt blown orifice sources to separate spaced rotating collector
21 sources with one of such sources receiving said layer from the other immediately
22 preceding collector source, said first layer and said second layer formed on first and
23 second said collector sources respectively, wherein one of said melt blown orifice sources

24 and said rotating collector sources is adjustable relative to the other of said melt blown
25 orifice sources and said rotating collector sources, each of said first and second collector
26 sources having a rotational axis, wherein said first and second layers are collected from
27 said melt blown orifice sources in a direction which is generally tangent to a rotational
28 surface of each of said collector sources.

1 Claims 30-32 (Canceled):

1 Claim 33. (Currently Amended): A fibrous filter media comprising a plurality of
2 fibrous layers, said plurality of fibrous layers having a first and second fibrous layer, said
3 first fibrous layer having a first varied and ~~intended~~ selected fiber size distribution
4 varying substantially continuously such that a first fiber size increases through a
5 thickness dimension of said first layer and having first increasing permeability through a
6 said thickness dimension of said first layer and first varied porosity and varied gradient
7 density within said first layer and increasing through said thickness dimension of said
8 first fibrous layer, said second fibrous layer having a second varied fiber size distribution
9 varying substantially continuously such that a second fiber size of said second fiber size
10 distribution increases through a thickness dimension of said second layer and having
11 second increasing permeability within said second layer and second varied porosity and
12 varied gradient density within said second layer increasing through said thickness
13 dimension, said first and said second fibrous layers each being attenuated as layers from
14 spaced orifice sources directly to separate, spaced rotating collector sources with one of
15 such sources receiving said layer from the other immediately preceding spaced rotating
16 collector source forming a mat of fibrous media, said spaced collector sources comprising
17 a first collector source and a second collector source, said first and second collector

18 sources each having a rotation axis, said rotation axes being generally perpendicular to
19 the direction of collection of said first fibrous layer and said second fibrous layer,
20 wherein one of said spaced orifice sources and said corresponding collector sources is
21 adjustable relative to the other of said spaced orifice sources and said corresponding
22 collector sources.

1 Claim 34. (Previously Presented): The fibrous filter media of Claim 33 wherein
2 said first fiber size varies within in a range within the range of approximately 0.1 to 27
3 micrometers.

1 Claim 35. (Previously Presented): The fibrous filter media of Claim 33
2 wherein said first porosity varies within in a range within the range of approximately 5 to
3 2000 cfm/ft².

1 Claim 36. (Previously Presented): The fibrous filter media of Claim 33
2 wherein said second fiber size varies within in a range within the range of approximately
3 1 to 50 micrometers.

1 Claim 37. (Previously Presented): The fibrous filter media of Claim 33
2 wherein said second porosity varies within in a range within the range of approximately
3 30 to 4000 cfm/ft².

1 Claim 38. (Previously Presented): The fibrous filter media of Claim 33
2 wherein said plurality of fibrous layers have a synthetic composition.

1 Claim 39. (Previously Presented): The fibrous filter media of Claim 33
2 wherein said plurality of fibrous layers has a third fibrous layer adjacent said second
3 fibrous layer and having a third varied fiber size distribution and third varied porosity,
4 said third varied fiber size distribution being substantially similar to said second varied

5 fiber size distribution and said third varied porosity being substantially similar to said
6 second varied porosity.

1 Claim 40. (Previously Presented): The fibrous filter media of Claim 33
2 wherein at least one of said plurality of fibrous layers has a portion of the fibers having
3 been curled and entangled.

1 Claim 41. (Previously Presented): The fibrous filter media of Claim 33
2 wherein said first varied fiber size distribution range is smaller than said second varied
3 fiber size distribution range.

1 Claim 42. (Previously Presented): The fibrous filter media of Claim 33
2 wherein said first fibrous layer has a smooth surface opposite said second fibrous layer,
3 said first varied fiber size distribution range being less than said second varied fiber size
4 distribution range.

1 Claim 43. (Previously Presented): The fibrous filter media of Claim 33
2 wherein said first fibrous layer has a smooth surface opposite said second fibrous layer,
3 said second fibrous layer having curled and entangled fibers with a greater size
4 distribution range than said first varied fiber size distribution range.

1 Claim 44. (Previously Presented): The fibrous filter media of Claim 33
2 wherein said first fibrous layer has a smooth surface opposite said second fibrous layer,
3 said second fibrous layer having a greater varied fiber size distribution range than said
4 first varied fiber size distribution range, said second fibrous layer having a smooth
5 surface opposite said first fibrous layer.